

WHAT IS CLAIMED IS:

1. A fluid pump comprising:

a housing;

a shaft rotatably supported by said housing;

a cylinder bore formed within said housing;

a piston accommodated in said cylinder bore, said piston reciprocating in said cylinder bore;

a orbiting member integrally rotating with said shaft, said orbiting member including a slant plane slanting with respect to the shaft;

a swing member connected to said slant plane through a thrust bearing, said swing member swinging with a rotation of said rotating member to reciprocate said piston; and

a swing support mechanism like a universal joint supporting said swing member such that said swing member swings, wherein

said swing support mechanism includes a first rotating member capable of rotating around a first axis perpendicular to a center line of said shaft, a constraining member connected to said first rotating member and restraining said first rotating member from rotating around the center line, and a second rotating member connected to said first rotating member such that said second rotating member rotates around a second axis perpendicular to the center line and crossing the first axis, and

said swing member is connected to said second rotating member.

2. A fluid pump according to claim 1, wherein
said first and second rotating members are substantially
formed in a ring,

said first rotating member is connected to said constraining
member through a cylindrically formed first pin, and

said second rotating member is connected to said first
rotating member through a cylindrically formed second pin.

3. A fluid pump according to claim 1, wherein

said orbiting member is connected to said shaft such that
a slant angle formed by said slant plane and the center line changes,
and

said constraining member is disposed in said housing to
move in a direction of the center line.

4. A fluid pump according to claim 3, further comprising
a discharge capacity detecting mechanism for detecting a discharge
capacity based on an amount of displacement of said constraining
member.

5. A fluid pump according to claim 3, wherein

said constraining member is cylindrically formed, and of
which cross section is polygonal,

said housing includes a hole having a cross section similar
to the cross section of said constraining member, and

said constraining member is slidably inserted into the hole.

6. A fluid pump according to claim 3, wherein said constraining member is cylindrically formed, and of which cross section is shaped like a gear, said housing includes a hole having a cross section similar to the cross section of said constraining member, and said constraining member is slidably inserted into the hole.

7. A fluid pump according to claim 3, wherein said constraining member is prevented from rotating with respect to said housing by a key fit and slides in the direction of the center line.

8. A fluid pump according to claim 1, wherein said swing member is formed in a ring disc, and said swing support mechanism is disposed near a center of said swing member.

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